FK-VV

LOCKHEED AIRCRAFT CORPORATION	ENGINEERING STUDY ☐ CHANGE PROPOSAL ☒	LAC -156
DATE 13 MAY 1963	AFFECTS : WSPO ☐	PROJECT ☒

NAME OF MAJOR COMPONENT	PART OR LOWEST SUBASSEMBLY	PART NO. & MODEL OR TYPE

TITLE OF PROPOSAL : REVISION - INVERTER SYSTEM

NATURE OF PROPOSAL :

SEE PAGE 2

CANCELLED See ECP 156-1

REASON FOR PROPOSAL :

SEE PAGE 2

ES — ESTIMATED COST AND TIME INVOLVED :
ADDITIONAL FUNDING REQUIRED :

CP — ESTIMATED COST FOR KITS OR PARTS : SEE PAGE 4
ADDITIONAL FUNDING REQUIRED : YES (SP-1922) NONE (SP-1923)

ITEMS AFFECTED BY PROPOSAL :

SAFETY	MISSION EFFEC-TIVENESS	PERFORM-ANCE	OPERATING PROCEDURE	INTER-CHANGE-ABILITY	WEIGHT OR WEIGHT & BALANCE	TOOLS & SUPPORT EQUIPMENT	MAINTE-NANCE PROCEDURE	SERVICE LIFE	FLIGHT MANUAL	MAINTE-NANCE MANUAL
X	X	X	X	X	X	☐	X	XX	X	X

EST. MAN/HRS. REQ'D. TO ACCOMPLISH CHANGE IN FIELD 80 Hours

SOURCE OF PARTS FOR KIT : PURCHASE & FAB.

AVAILABILITY - WEEKS AFTER APPROVAL : SEE PAGE 4

DISPOSITION OF SPARES AFFECTED :
P 419-2 INVERTER - RETURN TO STOCK FOR USE BY FOG

PREPARED BY : TOMER

APPROVED : PROJECT

STAT

F-1A

REASON FOR PROPOSAL

To provide more reliable, larger capacity inverter and to provide inverter back-up in the event of an inverter failure.

Loads on the 500 VA inverter are near maximum under certain flight configurations and future modifications requiring additional inverter power cannot be accomodated. This proposal allows for growth in addition to eliminating the carbon stack regulators which have been the source of most of the past inverter failures.

NATURE OF PROPOSAL

Replace the existing 500 VA inverter with a 750 VA unit - Leland P/N MGH182-100 per MS17406-1. This inverter provides static electronic circuits for voltage and frequency regulation.

Revise the existing inverter circuits to accept the 750 VA inverter and to provide use of the existing 250 VA continuous ignition inverter and the 100 VA emergency inverter as back-up to supply aircraft loads in event of failure of the 750 VA inverter. Replace the existing inverter toggle switch in the cockpit with a rotary selector switch with positions labeled as follows:

1. OFF - All inverters off. (Note: The 250 VA inverter will be on if activated by a separate switch for use by the continuous ignition system.)

2. NORMAL

   a. The 750 VA inverter is turned on and all selected inverter loads are connected to its output. Total load, including the Rendezvous Beacon is 544 VA.

   b. The Inverter Out warning light is connected to the 750 VA inverter.

   c. Allows use of the 250 VA inverter for continuous ignition by placing the Fuel Boost Pump switch in the On position.

3. Alternate With 618T-3 - To be selected by the pilot in the event of failure of the 750 VA inverter.

   a. Connects the 100 VA emergency inverter to power the existing emergency flight systems, e. g. Remote Compass, ID250, ADF, VOR-RMI, Altitude Gyro, and EGT. Total load is 90.2 VA.

Nature Of Proposal (Cont'd.)

b. Switches Continuous ignition to the AC generator and reconnects the 250 VA inverter to provide 3-phase power to all remaining aircraft systems except the rendezvous beacon. Total load is 249 VA.

c. Inverter Out warning is connected to the 250 VA inverter.

4. Alternate With Beacon - Required on ARS aircraft only. To be selected by pilot when beacon is needed after failure of the 750 VA inverter. Reconnects inverters same as alternate with HF Radio except as follows:

a. Disconnects 618T-3 from 250 VA inverter and renders [redacted] inoperative. 25X1

b. Disconnects autopilot from 250 VA inverter.

c. Disconnects gamma pulse rate meter from 250 VA inverter.

d. Connects rendezvous beacon to 250 VA inverter.

Total load on the 250 VA inverter is 255 VA.

5. Emergency - To be selected in the event of a DC generator failure or a failure of both the 750 VA and 250 VA interters.

a. Turns off the 750 VA inverter.

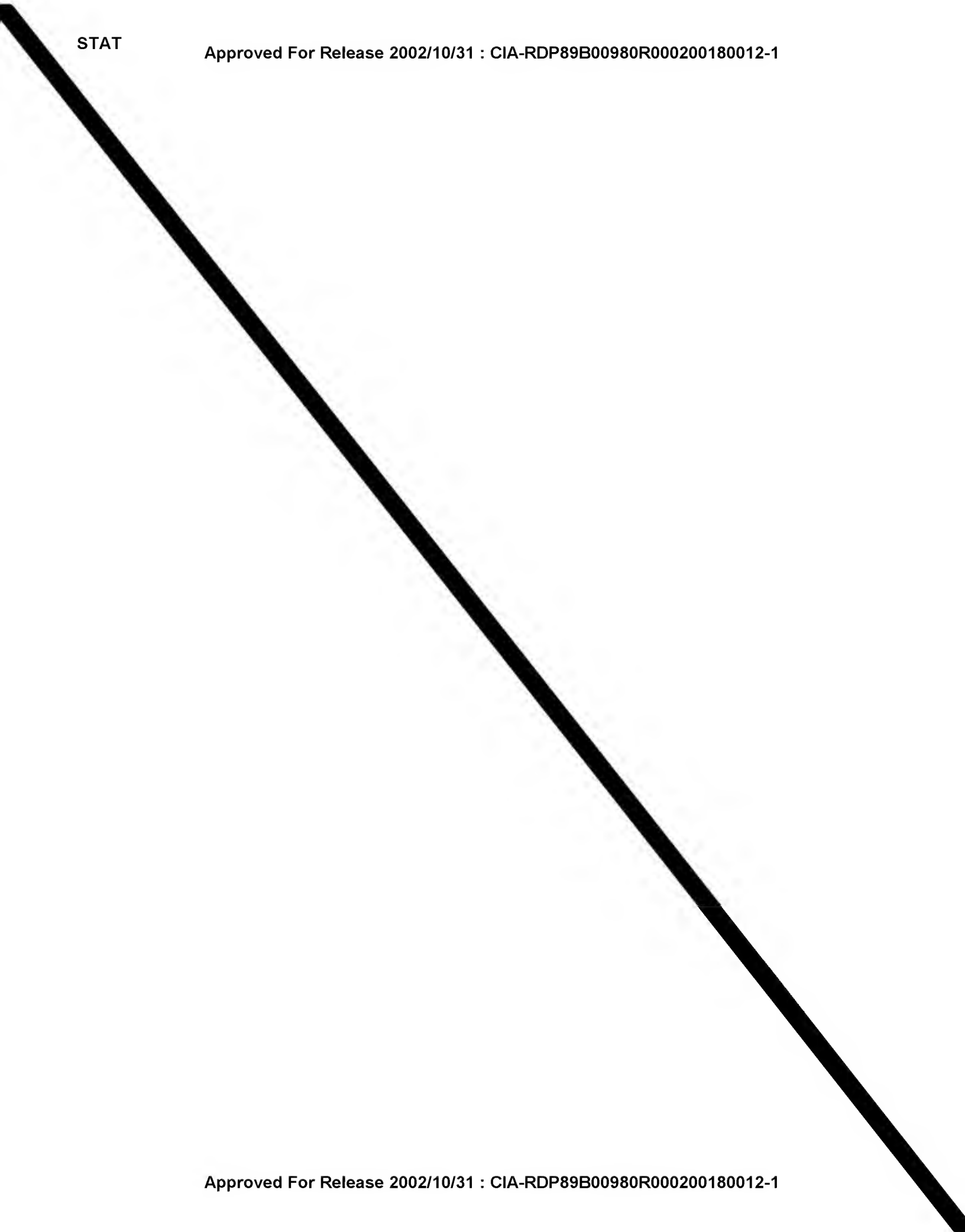
b. Turns off the 250 VA inverter.

c. Turns on the 100 VA inverter to supply emergency flight instruments only.

d. Connects the inverter out warning light to the 100 VA inverter.

Relays for accomplishing the load monitoring and inverter switching will be provided in the Q-bay. An isolation transformer will be added to the B phase to permit additional B phase loading and more evenly balance the loading of the three phases.

The new 750 VA inverter provides approximately 200 VA in excess of present loads. This will be available for future modifications, but the 250 VA inverter, when used for back-up in the event of main inverter failure, is fully loaded, and all future modifications must provide for selection of monitored equipment to avoid overloading the 250 VA inverter.



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